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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,243	02/27/2004	Timothy Giles Beard	L9289.04114	1264

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EXAMINER	
MEW, KEVIN D	

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/787,243	BEARD ET AL.	
	Examiner	Art Unit	
	Kevin Mew	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *73-132* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *73-132* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *7/5/2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/5/2005*.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *13* .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Final Action

Response to Amendment

1. Applicant's argument/remarks filed on 7/5/2005 has been considered and claims 73-132 are currently pending.

2. Acknowledgement is made of the amended drawings regarding the objection to the drawings cited in the previous Office Action. The corrections are acceptable and the objection to the drawings has been withdrawn.

3. Acknowledgement is made of the amended claims 79, 97, 112, 114 regarding the claim objections cited in the previous Office Action. The corrections are acceptable and the claim objections have been withdrawn.

4. Acknowledgement is made of the amended claims 101-102, 131-132 regarding the 35 U.S.C. 112, second paragraph rejection cited in the previous Office Action. The corrections are acceptable and the 35 U.S.C. 112, second paragraph rejection has been withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 73-84, 86, 103-114, 116 are rejected under 35 U.S.C. 102(b) as being anticipated by the admitted prior art, Chillariga et al. (US Publication 2001/0030956).

Regarding claims 73, 79, 103, 109, Chillariga discloses a base station apparatus (see element 3, Fig. 1) to perform a multiple access communication method in which a base station transmits an uplink status flag (USF) on a downlink slot (see block B0, Fig. 3), wherein when shifted USF operation is not used (USF for identifying uplink information is transmitted in one downlink block B0, see paragraph 0067, lines 5-8 and middle diagram, Fig. 3; note that no shifted USF operation is used), then an USF which instructs a mobile station to perform uplink transmission on a first uplink slot (uplink NEW_PDCH, see entire paragraph 0094) is transmitted on a first downlink slot (the USF information for the first uplink block B1 in frame MFx is transmitted in the no-shading portion of the first downlink PDCH block B0 in frame MFx, see entire paragraphs 0028 and 0092 and 0095), and when the shifted USF operation is used (block B0 with USF information is logically shifted, see paragraph 0092, lines 1-4 and Fig. 7), then the USF which instructs the mobile station to perform uplink transmission on the first uplink slot (uplink NEW_PDCH, see entire paragraph 0094) is transmitted on a second downlink slot (the USF information for uplink block B1 is transmitted in the no-shading portion of a second downlink block PDCH B0 block in frame MFx+1, see entire paragraph 0092, 0095 and Fig. 7).

Regarding claims 74, 80, 104, 110, Chillariga discloses the method according to claims 73, 79, 103, 109, respectively, wherein an USF which instructs the mobile station to perform uplink transmission on a second uplink slot (uplink NEW_PDCH, see entire paragraph 0094) is transmitted on the second downlink slot (the no-shading portion of the downlink block B0 in frame MFx+1 which carries USF information for a second uplink block B1 in frame MFx+1 of the downlink NEW_PDCH, see entire paragraphs 0092, 0095 and Fig. 7).

Regarding claims 75, 81, 105, 111, Chillariga discloses the method according to claims 74, 80, 104, 110, respectively, wherein a value of the USF which instructs the mobile station to perform uplink transmission on the first uplink slot (uplink NEW_PDCH, see paragraph 0081) is different from a value of the USF which instructs the mobile station to perform uplink transmission on the second uplink slot (each of reserved bursts 0, 14, 28, 42 carries USF information for its own uplink burst group of the uplink NEW_PDCH, see entire paragraphs 0079, 0080, 0081 and Fig. 5).

Regarding claims 76, 82, 106, 112, Chillariga discloses the method according to claims 73, 79, 103, 109, wherein (i) when the shifted USF operation is not used, then an USF which instructs a mobile station to perform uplink transmission on the first uplink slot (uplink PDCH block B0, see paragraph 0067) and all higher numbered uplink slots (uplink PDCH blocks B1, B2, B3) allocated for uplink transmission is transmitted on the first downlink slot (USF for identifying uplink information is transmitted in one downlink block B0 for uplink blocks B1-

B11, see paragraph 0067, lines 5-8 and entire paragraph 0068 and middle diagram, Fig. 3; note that no shifted USF operation is used), and (ii) when the shifted USF operation is used (block B0 with USF information is logically shifted, see paragraph 0092, lines 1-4 and Fig. 7), then the USF which instructs the mobile station to perform uplink transmission on the first uplink slot (uplink PDCH block B0, see paragraph 0067) and all higher numbered uplink slots (uplink PDCH blocks B1-B11) allocated for uplink transmission is transmitted on the second downlink slot (the USF information for uplink blocks B1-B11 is transmitted in the no-shading portion of a second downlink block B0 block in frame MFx+1, see entire paragraph 0092 and Fig. 7).

Regarding claims 77, 83, 107, 113, Chillariga discloses the method according to claims 73, 79, 103, 109, respectively, wherein the second downlink slot is the next numbered downlink slot (second downlink block PDCH B0 block in frame MFx+1) of the first downlink slot (first downlink block PDCH B0 block in frame MFx, see entire paragraph 0092 and Fig. 7).

Regarding claims 78, 84, 108, 114, Chillariga discloses the method according to claim 73, 79, 103, 109, respectively, wherein when the shifted USF operation is not used, then an USF which instructs the mobile station to perform uplink transmission on the nth uplink slot and all higher numbered uplink slots allocated for uplink transmission is transmitted on the nth downlink slot (USF information for a first uplink PDCH block B1 and other consecutive uplink PDCH blocks B2-B11 is transmitted in a first downlink block B0, see middle diagram, Fig. 3; note that no shifted USF operation is used).

Regarding claims 86, 116, Chillariga discloses the method according to claim 73, 103, respectively, wherein the mobile station performs transmission on the next transmission frame or consecutive group of transmission frames (uplink blocks B9, B10, B11 are transmitted in multiframe MFx, see Fig. 7) if the USF is detected (if USF for uplink block B1 is transmitted on downlink block B0, see middle diagram, Fig. 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 85, 87-102, 115, 117-132 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chillariga in view of Abdesselem et al. (US Publication 2004/0151143 A1).

Regarding claims 85, 115, Chillariga discloses all the aspects of the claimed invention set forth in the rejection of claims 73, 103, respectively, except fails to explicitly show the method according to claims 73 and 103, wherein eight consecutive uplink slots form an uplink TDMA frame and eight consecutive downlink slots form a downlink TDMA frame. However, Abdesselem discloses that the number of timeslots in both the uplink and downlink TDMA frames are eight timeslots (see Fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dynamic channel allocation of Chillariga with the teaching of Abdesselem in using eight timeslots for both the uplink and

downlink TDMA frames. The motivation to do so is provide enough timeslots for transmitting and receiving when supporting TDMA in a GPRS system.

Regarding claims 87, 117, Chillariga discloses the method according to claims 85, 115, respectively, wherein an offset between the uplink TDMA frame and the downlink TDMA frame is three slots or approximately three slots. However, Abdesselem discloses that there is a timing offset between an uplink TDMA frame and a downlink TDMA frame, which corresponds to a timeslot shift between the uplink and the downlink TDMA frames (see entire paragraphs 0026 and 0027). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dynamic channel allocation of Chillariga with the teaching of the timing offset shift between the uplink and downlink TDMA frames in Abdesselem such that the offset between the uplink TDMA frame and the downlink TDMA frame is approximately three slots. The motivation to do so is for the mobile station to provide sufficient time to switch between the uplink and downlink modes and to allow the performance of neighboring cell measurements between the downlink and the uplink.

Regarding claims 88, 118, Chillariga discloses all the aspects of the claimed invention set forth in the rejection of claims 73, 103 above, except fails to explicitly discloses the method according to claims 73, 103, wherein the mobile station performs adjacent cell signal level measurement and preparation for reception prior to re-configuration from transmission to reception. However, Abdesselem discloses neighboring cell measurement could be performed on downlink timeslot seven (see paragraph 0024, lines 10-12). Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to modify the dynamic channel allocation of Chillariga with the teaching of performing neighboring cell measurement and preparation for uplink transmission in Abdesselem such that the mobile station performs adjacent cell signal level measurement and preparation for reception prior to re-configuration from transmission to reception. The motivation to do so is for the mobile station to measure the power of neighboring cells so as to conform to the GPRS/EDGE standard.

Regarding claims 89, 119, Chillariga and Abdesselem disclose all the aspects of the claimed invention set forth in the rejection of claims 88, 118 above. Chillariga does not disclose the time needed for performing adjacent cell signal level measurement and preparation for reception is three slots. However, Abdesselem further discloses two timeslots are used for neighboring channel measurement and one timeslot is used for switching and setup (see entire paragraph 0023). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dynamic channel allocation of Chillariga with the teaching of using three timeslots in Abdesselem to perform adjacent cell signal level measurement and preparation for reception. The motivation to do so is for the mobile station to measure the power of neighboring cells so as to conform to the GPRS/EDGE standard.

Regarding claims 90, 120, Chillariga and Abdesselem disclose all the aspects of the claimed invention set forth in the rejection of claims 88, 118 above. Chillariga does not explicitly show the method according to claims 88, 118, wherein the time needed for performing adjacent cell signal level measurement and preparation for reception is one slot. However,

Abdesselem further discloses one timeslot is used for frequency switching between the downlink, uplink, and neighboring cell measurement operations is completed within a total period of one timeslot (see entire paragraph 0048). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dynamic channel allocation of Chillariga with the teaching of using one timeslot in Abdesselem for performing adjacent cell signal level measurement and preparation for reception. The motivation to do so is to reduce the time needed to accomplish the neighboring cell measurement and uplink setup so that timeslot usage will be increased for downlink transmission.

Regarding claims 91, 121, Chillariga and Abdesselem disclose all the aspects of the claimed invention set forth in the rejection of claims 88, 118 above. Chillariga does not explicitly show discloss the method according to claims 88, 118, wherein the time needed for performing adjacent cell signal level measurement and preparation for reception is one slot and thirty one symbol periods timing advance offset. However, Abdesselem discloses neighboring cell measurement can be accomplished within downlink timeslot seven, and timing advance value of 31 bits is used to allow sufficient time for the mobile station to switch between uplink and downlink frequencies (see paragraph 0024, lines 10-12 and entire paragraphs 0031 and 0032). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dynamic channel allocation of Chillariga with the teaching in Abdesselem of using one time slot for performing adjacent cell signal level measurement and thirty one symbol periods timing advance offset. The motivation to do so is to reduce the time needed to accomplish the neighboring cell measurement so that timeslot usage will be increased

for downlink transmission and to provide sufficient time to switch between uplink and downlink modes so that the resulting switching, setup and neighboring cell measurement are performed within two timeslots.

Regarding claims 92, 122, Chillariga discloses all the aspects of the claimed invention set forth in the rejection of claims 73, 103 above. Chillariga does not explicitly show the method according to claims 73, 103, wherein the mobile station performs adjacent cell signal level measurement and preparation for transmission prior to re-configuration from reception to transmission, and the time needed for performing adjacent cell signal level transmission is one slot. However, Abdesselem further discloses neighboring cell measurement can be accomplished within downlink timeslot seven (see paragraph 0024, lines 10-12). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dynamic channel allocation of Chillariga with the teaching in Abdesselem of using one time slot for performing adjacent cell signal level measurement and preparation for transmission prior to re-configuration from reception to transmission. The motivation to do so is to reduce the time needed to accomplish the neighboring cell measurement so that timeslot usage will be increased for downlink transmission and to provide sufficient time to switch between uplink and downlink modes so that the resulting switching, setup and neighboring cell measurement are performed within one timeslot.

Regarding claims 93-96, 123-126, Chillariga and Abdesselem discloses all the aspects of the claimed invention set forth in the rejection of claims 89-92, 119-122, respectively, except fail

to explicitly show the shifted USF operation is used if either three slots, five slots, or six slots are allocated for the uplink transmission in the uplink TDMA frame. However, Abdesselem discloses five or six or lesser number of uplink slots can be used equally well when allocating timeslots to data traffic in a TDMA frame (see entire paragraph 0027). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dynamic channel allocation of Chillariga with the teaching in Abdesselem of allocating either three, five, or six timeslots for uplink transmission in the uplink TDMA frame. The motivation to do so is does not define a patentable distinct invention over that in the combined method and apparatus of Chillariga and Abdesselem since both the invention as a whole and the combined method and apparatus of Chillariga and Abdesselem are directed to dynamically allocating timeslots required for sending traffic in both the uplink and downlink directions so as to maximize timeslot usage. The degree in which determining the number of timeslots presents no new or unexpected results so long as the timeslot usage is maximized according to the traffic demand. If one has more number of timeslots for the uplink, it will be provide excellent or good service for the uplink, and if one has less number of timeslots for the uplink, it will provide fair service. Therefore, to have the number of timeslots to be three, five, or six that maximizes timeslot usage would have been routine experimentation and optimization in the absence of criticality.

Regarding claims 97-100, 127-130, Chillariga further discloses the method according to claims 93-96, 123-126, respectively, wherein an indication to use the shifted USF operation is automatic (the ability to shift block USF information in B0 is automatic in the packet data

channel NEW_PDCH multiframe structure of a GPRS/EGPRS system, see entire paragraph 0092 and Fig. 7).

7. Claims 101-102, 131-132 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chillariga in view of Abdesselem et al., and in further view of Parantainen et al. (US Publication 2002/0181422 A1).

Regarding claims 101-102, 131-132, Chillariga discloses all the aspects of the claimed invention set forth in the rejection of claims 73, 79, 103, 109, respectively, except fails to explicitly show the number of multi-slot class is any one of multi-slot classes 7, 34, 39 and 45. However, Parantainen discloses the number of multislot class that the mobile station takes ranges from 1 to 12 (see entire paragraph 0034). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the dynamic channel allocation of Chillariga with the teaching in Parantainen such that the multislot class number being used is 7. The motivation to do so is to make sure the uplink timeslot(s) immediately before the radio block on an assigned packet data channel PDCH is not allocated according to the multislot class 7 standard.

Response to Arguments

8. Applicant's arguments filed on 7/5/2005 have been fully considered but are not persuasive.

In response to applicant argument as cited on page 20 of applicant's remarks, the interval between a USF and next USF is not constant, and depends on whether shifted USF is frames, it is noted that these features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant argument as cited on page 20 of applicant's remarks that the present invention discloses use of USF on a slot-wise basis whereas the Chillariga reference discloses use of USF on a block-wise basis, it is recognized by the examiner that claims 73 and 103 do not explicitly disclose the specifics of the meaning of the term "slot." Therefore, the term block disclosed in Chillariga reads on the term "slot." Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument cited on page 21, lines 15-22 on the remarks that the Chillariga reference fails to use different downlink slots to instruct uplink transmission on the same uplink slot, depending upon whether shifted USF or non-shifted USF operation is being performed, it is recognized by the Examiner that Chillariga does read on the claimed limiations (see paragraph 0092, Figs. 3 and 7). In particular, Chillariga teaches that the first downlink block B0 in the non-shifted operation, as marked in Fig. 3, provides instructions with respect to

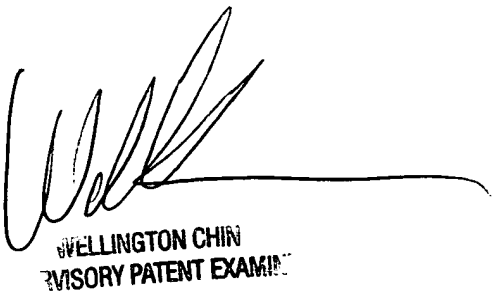
the USF block B0 (USF which instructs the mobile station to perform uplink transmission) is shifted from the current frame MF_x (on said first uplink slot) to the next frame MF_{x+1} (is transmitted on a second downlink slot), as marked in Fig. 7. This block B0, although shifted from MF_x to MF_{x+1}, is still allocated with the same B1-B11 blocks as one allocation frame (see paragraph 0092). Therefore, this downlink block B0, now shifted to the next frame MF_{x+1} position, still provides instructions with respect to said uplink blocks B1-B11 of the current frame MF_x. As a result, claims 73 and 103 stand rejected under 35 USC 102(b) as being anticipated by Chillariga.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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